

WHAT IS CLAIMED IS:

1. Polyisocyanates which
 - A) have a mean NCO functionality ≥ 2 ,
 - 5 B) have a content of blocked NCO groups (calculated as NCO, molecular weight = 42) of from 2.0 to 17.0 wt.%,
 - C) have a content of from 1 to 30 wt.% alkoxy groups as a constituent of allophanate and, optionally, urethane groups, the molar ratio of allophanate groups to urethane groups being at least 1:9, and
 - 10 D) optionally contain auxiliary substances or additives,

wherein at least 95 mol.% of the free NCO groups are blocked with a blocking agent of the formula R^1R^2NH , in which R^1 and R^2 are each independently of the other aliphatic or cycloaliphatic C_1 - C_{12} -alkyl radicals.
- 15 2. The polyisocyanates according to claim 1, wherein the polyisocyanates are based on aliphatic and/or cycloaliphatic diisocyanates.
3. The polyisocyanates according to claim 1, wherein the molar ratio of
20 allophanate groups to urethane groups is at least 3:7.
4. A process for the preparation of the polyisocyanates according to claim 1 comprising reacting
 - a) at least one polyisocyanate having a mean NCO functionality ≥ 2
25 and an NCO content (calculated as NCO; molecular weight = 42) of from 8.0 to 27.0 wt.%, with
 - b) at least one alcohol to form urethane groups and
 - c) optionally with the addition of at least one catalyst, such a
30 proportion of the urethane groups is converted to allophanate groups that the molar ratio of allophanate groups to urethane groups is at least 1:9, and the remaining isocyanate groups, which

is then reacted with

- d) a blocking agent of the formula R^1R^2NH , in which R^1 and R^2 are each independently of the other aliphatic or cycloaliphatic C_1 - C_{12} -alkyl radicals, so that at least 95 mol.% of the isocyanate groups are in blocked form.

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5. The process according to claim 4, wherein such a proportion of the urethane groups are converted to allophanate groups that the molar ratio of allophanate groups to urethane groups is at least 3:7.

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6. A method of making polyurethane materials and coatings comprising mixing the polyisocyanate of claim 1 with constituents for making the polyurethane materials and coatings.

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7. Substrates coated with coatings according to claims 6.

8. A method of making polyurethane materials and coatings comprising mixing the polyisocyanate of claim 2 with constituents for making the polyurethane materials and coatings.

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9. Substrates coated with coatings according to claims 8.

10. A method of making polyurethane materials and coatings comprising mixing the polyisocyanate of claim 3 with constituents for making the polyurethane materials and coatings.

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11. Substrates coated with coatings according to claims 10.